

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 38

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ALF SCHULZ, DIRK SEFFER, MATTHIAS RIELAND
and WERNER RUDOLPH

Appeal No. 2002-0924
Application 08/876,529

HEARD: JANUARY 23, 2003

Before OWENS, TIMM and JEFFREY T. SMITH, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal is from the final rejection of claims 1-4, which are all of the claims remaining in the application.

THE INVENTION

The appellants claim a method for making phosphorous pentafluoride or arsenic pentafluoride. Claim 1 is illustrative:

1. A method of preparing an inorganic pentafluoride corresponding to the formula MF_5 , where M represents P or As, said method comprising:

reacting a trihalide corresponding to the formula MX_3 , where M has the meaning given above and X is chlorine or bromine, with chlorine, bromine or iodine and with an excess of HF at elevated pressure and a temperature between $-25^{\circ}C$ and $100^{\circ}C$ in a pressure vessel, whereby a mixture of MF_5 and HX is formed; and

releasing and discharging the mixture from the pressure vessel as a gaseous mixture and isolating the MF_5 formed.

THE REFERENCES

Wiesboeck	3,584,999	Jun. 15, 1971
Jonas (DE '247) ¹ (German patent)	812,247	Aug. 27, 1951

THE REJECTIONS

Claims 1-4 stand rejected under 35 U.S.C. § 103 as being unpatentable over DE '247 in view of Wiesboeck.

OPINION

We reverse the aforementioned rejection. We need to address only the sole independent claim, i.e., claim 1.

¹ Citations herein to this reference are to the English translation thereof by the Ralph McElroy Translation Co. (March 1999), which is of record.

The appellants' claim 1 requires that the MF_5 formed is isolated.

The examiner relies (answer, pages 4-5) upon example 2 of DE '247 wherein hexafluorophosphoric acid is made by mixing hydrogen fluoride with phosphorus trichloride in an iron bomb and gradually adding liquid chlorine to the bomb with cooling. "The pressure is then gradually allowed to decrease until the escaping gas, which initially consists only of hydrogen chloride, begins to color a gas flame palely but clearly through its phosphorus pentachloride [sic, pentafluoride] content. Then liquid hexafluorophosphoric acid is found in the pressurized vessel."

The examiner argues that the title of Wiesboeck ("Manufacture of Phosphorus Pentafluoride") indicates that phosphorus pentafluoride is a desired product in the art, and argues that one of ordinary skill in the art would have recovered the DE '247 phosphorous pentafluoride for this reason and because, due to the toxicity of phosphorous pentafluoride, it cannot be directly released into the atmosphere (answer, pages 5-6).

The desired product in DE '247 is hexafluorophosphoric acid and its salts rather than phosphorous pentafluoride. DE '247 merely teaches in example 2 that as the pressure is reduced, phosphorous pentafluoride appears and indicates the presence of the desired hexafluorophosphoric acid product in the pressurized vessel. The examiner has not established that the phosphorous pentafluoride is present in an amount which is sufficient for one of ordinary skill in the art to have desired to recover it or, if not, that the applied prior art would have led one of ordinary skill in the art to modify the process in DE '247 example 2 such that an amount of phosphorous pentafluoride which is suitable for recovery is produced.

Accordingly, we conclude that the examiner has not carried the burden of establishing a *prima facie* case of obviousness of the appellants' claimed invention.

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DECISION

The rejection of claims 1-4 under 35 U.S.C. § 103 over
DE '247 in view of Wiesboeck is reversed.

REVERSED

TERRY J. OWENS)	
Administrative Patent Judge)	
)	
)	
CATHERINE TIMM)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	
)	INTERFERENCES
)	
JEFFREY T. SMITH)	
Administrative Patent Judge)	

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